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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,653	03/11/2004	Michel Delzenne	Serie 6150	6322

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EXAMINER

PASCHALL, MARK H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/798,653

Applicant(s)

DELZENNE

Examiner

Mark H. Paschall

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 11-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13,17-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelkar et al in view of Fein. The claims are unpatentable for the same reasons set forth on page 2-3 in the prior rejection, mailed 02-08-05.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelkar et al in view of Fein and Gourlaouen et al. The claims are unpatentable for the same reasons set forth in the office action mailed 02-08-05.

### ***Response to Arguments***

Applicant's arguments filed 15 April 2005 have been fully considered but they are not persuasive. On page 1 in the remarks, Applicant is correct in noting that Kelkar et al discloses a preference for an oxidizing gas as the primary gas. However, on page 2, paragraph 0017, Kelkar also states another embodiment of gas choice which states, "However, it is understood that the primary gas may be other than oxygen, such as air, nitrogen, argon or an argon/hydrogen mixture, and that the secondary gas may be other than air, such as oxygen, nitrogen, argon, carbon dioxide or ...". Despite the preference

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for an oxidizing plasma gas flow, this further embodiment showing one or multiple non-oxidizing gases used as a plasma flow, with a shield flow of carbon dioxide around the central flow, cannot be ignored. Kelkar et al is also noted by Applicant as disclosing a torch, which has the secondary gas flow nearly parallel to the primary gas flow.

Applicant's claims are silent as to the flow orientations and only mention, "an annular stream being delivered peripherally to said central gas stream. It is very clear that the Kelkar et al system teaches Applicant's claimed structure, since both the instant claims and the Kelkar et al system have a secondary flow shielding the primary flow in an annular orientation. Applicant's remarks on page 8, second paragraph stating that the Kelkar system is in sharp contrast to the instant invention since the gases are commingled and the exiting gas streams do not converge until well beyond the nozzle tip, are not patentably persuasive, since as discussed above, Kelkar et al does teach the "claimed invention" structure.

The patent to Fein is applied for teaching that the primary gas flow in a cutting torch can have a plasma gas comprising a hydrogen/nitrogen mixture, as instantly claimed. The patent to Kelkar et al teaches use of these gases, but not concurrently. One of ordinary skill in plasma cutting is well aware that choice of gases depends on multiple parameters, such as the material being cut, the thickness of this material, the power levels operated at and the desired cutting temperatures. Applicant's claims are also silent as to these features, only stating that metal is cut. Claim 21 does mention steel, stainless steel or aluminum as the work metals. These choices such as nitrogen/hydrogen depend on parameters not claimed. One of ordinary skill in this art

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has the knowledge to pick and choose gas mixtures accordingly. What is critical to the instant invention is that Kelkar et al very clearly teach that a non-oxidizing gas or mixture of gases can be used as a plasma central gas flow to cut metal and a secondary flow of oxidizing gas surrounds this flow. The artisan is aware that an oxidizing secondary flow can lead to the surface finish, dross or other parameters of the cut. Likewise the use of a primary non-oxidizing flow is recognized as enhancing the longevity of the torch components. The artisan picks and chooses according to what is desired and would find the mixture percentages of gases set forth in the dependent claims obvious, a choice dependent on the intended use of the torch.

the instant claims are silent as to what levels of quality are desired for the instant cut, and how much dross are desired. The patent to Fein also has a surrounding water sheath around the carbon dioxide shield gas. Applicant notes that this is in sharp contrast to the instant invention, which has no water. Once again, the choice of using water is one dependent on unclaimed welding parameters, such as workpiece thickness, where the water just adds more mass and energy to the cut to blow the dross further from the cut. However, the use of this water does not diminish the role of the blanket gas in Fein protecting erosion of the torch components since it is fed in downstream of the tungsten electrode so as not to react with the electrode and erode it prematurely. If the metal to be cut is thick and needs a plasma jet having more mass, then use of water would be justified. Applicant's claims are silent as to use or non-use of water.

The patent to Gourlaouen et al is relied on for merely evidencing the claimed percentages of the hydrogen content of the central gas flow, as conventional. These choices are also considered obvious to the artisan as discussed above. Gourlaouen et al do teach a coating device, the artisan is aware that the mixture percentages are chosen according to the temperature levels desired in the main flow and these are designated by the end use of the device. With reference to the dependent claim features and how they are met by the instant rejection, Applicant should reference discussion of the same in the prior office action.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

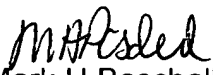
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H. Paschall whose telephone number is 703 308-1642. The examiner can normally be reached on 7am - 3pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (703) 305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mark H Paschall  
Primary Examiner  
Art Unit 3742

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